This listing of claims will replace all prior versions, and listings, of claims in the application:

**LISTING OF CLAIMS:**

**1. (currently amended)** An optical device comprising a glass substrate doped with a laser species and having two or more waveguides defined by channels in the substrate having a distinct refractive index from the substrate wherein at least two of the waveguides are defined by channels having differing widths such that they have ~~distinct~~ different effective refractive indices from each other.

**2. (original)** An optical device of claim 1, wherein the substrate is comprised of an alkali phosphate glass doped with Er and Yb.

**3. (original)** An optical device of claim 2, wherein the waveguides are comprised of an alkali phosphate glass doped with Er and Yb, which has been treated so that the refractive index is higher than that of the substrate.

**4. (original)** An optical device of claim 3, wherein the optical device is prepared by applying a mask to the substrate glass having apertures of a width and length corresponding to the waveguides to be formed in the substrate and conducting ion-exchange by contact with an ion-exchange solvent to form the waveguides through the apertures.

**5. (original)** An optical device of claim 3, wherein the optical device is prepared by applying a mask to the substrate glass having apertures of a width and length corresponding to the waveguides to be formed in the substrate and conducting photolithography to form the waveguides through the apertures.

**6. (currently amended)** An optical device of claim 1, which further comprises a reflecting element in association with and at the end of the waveguide to provide a laser effect when pumped.

**7. (original)** The optical device of claim 6, wherein the reflecting element is a diffraction grating provided on the substrate.

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**8. (original)** A method for preparing an optical device having at least one active doped region substrate, at least one passive doped region substrate and at least one waveguide defined therein which comprises bringing a separate active doped substrate and a separate passive doped substrate in contact with each other and heating at a temperature above the softening temperature of the substrates to fuse them together, the waveguide being provided either before or after fusing the substrates.

**9. (original)** An optical device having at least one active doped region substrate, at least one passive doped region substrate and at least one waveguide defined therein which is prepared by the process of claim 8.

**10. (original)** An optical device of claim 9, wherein at least one region of the substrate is comprised of an alkali phosphate glass doped with Er and Yb.

**11. (original)** An optical device of claim 9, which is a laser comprising the fused active doped region and passive doped region substrate and at least one waveguide defined therein.

**12. (original)** A method for modifying the wavelength of one or more waveguides contained as channels of differing refractive index material in a laser species-containing substrate which comprises heating the substrate.

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**13. (original)** The method of claim 12, wherein the method results in expansion the waveguide(s) to increase the wavelength which is offset by a reduction in the refractive index of the waveguide.

**14. (original)** The method of claim 12, wherein the modifying of the wavelength upon heating occurs at a rate which is about 15 times less than that observed for DFB lasers.

**15. (original)** The method of claim 12, wherein the substrate is comprised of an alkali phosphate glass doped with Er and Yb.

**16. (currently amended)** A laser amplifier which comprises an ~~The~~ optical device of claim 1, as a waveguide ~~which is in the form of a laser amplifier~~.

**17. (currently amended)** A laser amplifier which comprises an ~~The~~ optical device of claim 9, as a waveguide ~~which is in the form of a laser amplifier~~.

**18. (previously added)** The optical device of claim 1, wherein the glass substrate is doped with a laser species selected from the group consisting of the rare-earth elements Er, Yb, Nd, Ho, Tm, Sm, Tb, Dy, Pr and combinations thereof.

**19. (previously added)** An optical device prepared by the process of claim 9, wherein at least one active region contains a least one rare earth element.

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**20. (previously added)** The method of claim 14, wherein the change in wavelength per degree centigrade temperature change is less than 0.02 nm/°C.

**21. (previously added)** An optical device of claim 9, which is in the form of a single-frequency 1.32-1.4 um laser having a Nd-doped phosphate glass active region fused to La-doped glass passive region, the passive region having a DBR grating with a period which reflects a single wavelength in the range of 1.32–1.4 um.

**22. (previously added)** The optical device of claim 1, wherein the device is in the form of a multi-wavelength laser source which further comprises at least one pump light source coupled through a suitable launch-end mirror by butting against the end of a waveguide.

**23. (previously added)** The optical device of claim 22, which comprises eight pump laser diodes as pump light sources, eight corresponding sets of waveguides and eight optic fibers held by an alignment block such that each respective fiber is optically coupled to the emitting end of the top or first waveguide of each set of waveguides.

**24. (previously added)** The optical device of claim 1, in the form of a multi-wavelength laser source having multiple sets of waveguides, a corresponding pump light source for each set of waveguides and with output fibers connected to the middle waveguide of each set of waveguides.

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**25. (previously added)** The optical device of claim 24, wherein each pump light source is coupled through a lens to concentrate the light from the pump light source into a waveguide.

**26. (previously added)** The optical device of claim 1, in the form of a single-wavelength laser source having multiple waveguides and a single pump light source capable of being coupled to any of the waveguides such that at least two of the waveguides provide outputs of differing wavelength when pumped.

**27. (previously added)** The optical device of claim 1, in the form of a laser which comprises redundant waveguides all operating at a single wavelength and further comprises at least one DBR mirror as a reflecting element in association with at least one waveguide on the substrate.

**28. (previously added)** The optical device of claim 1, in the form of a laser comprising at least two waveguides and at least two corresponding DBR mirrors each being tuned to a unique wavelength.

**29. (previously added)** The optical device of claim 1, in the form of a laser wherein the device includes a hermetic package, is pumped by an optical fiber, and is coupled to an output optical fiber such that it is capable of taking a noisy pump light input and outputting a clean laser output light at a different frequency.

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**30. (previously added)** The optical device of claim 1, in the form of an integrated device that further comprises a pump laser diode, a light-sensing diode, a thermistor and electrical connections between and to these components.

**31. (previously added)** The optical device of claim 1, in the form of a laser having direct butt coupling of a pump laser diode to a waveguide.

**32. (previously added)** The optical device of claim 1, in the form of a laser having lensed coupling of a pump laser diode to a waveguide.

**33. (previously added)** The optical device of claim 9, in the form of a laser wherein the device includes a hermetic package, is pumped by an optical fiber, and is coupled to an output optical fiber such that it is capable of taking a noisy pump light input and outputting a clean laser output light at a different frequency.

**34. (previously added)** The optical device of claim 9, in the form of an integrated device that further comprises a pump laser diode, a light-sensing diode, a thermistor and electrical connections between and to these components.

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**35. (previously added)** The optical device of claim 9, in the form of a laser having direct butt coupling of a pump laser diode to a waveguide.

**36. (previously added)** The optical device of claim 9, in the form of a laser having lensed coupling of a pump laser diode to a waveguide.